

IN THE DRAWING FIGURES:

Kindly substitute Figure 1 of the above-identified application with the enclosed one (1) sheet of formal drawings of Figure 1, the sheet marked "REPLACEMENT SHEET".

REMARKS

Reconsideration and allowance of the above-identified application are respectfully requested.

Claims 1-11, 15-25, 31-41, 46-56, 60-70, 76-86, 91-101, 106-116, 121-131, 135-145, 151-161, 212-222 and 249-376 are currently pending, wherein claims 1, 2, 5, 6, 8, 15, 16, 19, 20, 22, 31, 32, 35, 36, 38, 46, 47, 50, 51, 53, 60, 61, 64, 65, 67, 76, 77, 80, 81, 83, 91, 92, 95, 96, 98, 106, 107, 110, 111, 113, 121, 122, 125, 126, 128, 135, 136, 139, 140, 142, 151, 152, 155, 156, 158, 212, 213, 216, 217 and 219 are independent.

Claims 5, 6, 8, 19, 20, 22, 35, 36, 38, 50, 51, 53, 64, 65, 67, 80, 81, 83, 95, 96, 98, 110, 111, 113, 125, 126, 128, 139, 140, 142, 155, 156, 158, 216, 217 and 219 have been amended merely to rewrite these claims in independent form. No new matter has introduced by way of these amendments.

Claims 12-14, 26-30, 42-45, 57-59, 71-75, 87-90, 102-105, 117-120, 132-134, 146-150, 162-211 and 223-248 have been canceled without prejudice. (Applicants note that there were two claims both numbered claim 225. Consequently, there were 248 claims pending in the original claim set). Applicants reserve the right to file one or more divisional applications directed to the non-elected claims.

Claims 249-376 have been added. No new matter has been introduced by way of these new claims.

Applicants would like to thank Examiner Justin King and Primary Examiner Paul Myers for the personal interview conducted on January 18, 2005. In compliance with

M.P.E.P. § 713.04, the substance of that interview is incorporated in the foregoing amendments to the claims and in the following remarks.

In the second section of the Office Action, Figure 1 is objected to, because this figure should be designated by a legend such as "Prior Art," because only that which is old is allegedly illustrated. Applicants hereby amend Figure 1 to include the designation "Prior Art." Consequently, Applicants hereby submit one (1) sheet of formal drawings for Figure 1 for review by the Patent Office in connection with the above-identified application, the sheet marked "REPLACEMENT SHEET." Should the enclosed drawing require changes, it is respectfully requested that the Patent Office notify the undersigned of same. Accordingly, reconsideration and withdrawal of these grounds of objection are respectfully requested.

In the third section of the Office Action, the Patent Office suggests that the specification be updated to reflect the latest status of related U.S. Patent Application No. 09/661,912. Applicants respectfully submit that as of the date of submission of the present Amendment, U.S. Patent Application No. 09/661,912 has been allowed, and the issue fee paid, but the application has not yet issued as a patent. Consequently, it is respectfully noted that the related application is still co-pending with the present application, and so its status is currently correct and remains as indicated in the present application. Accordingly, reconsideration and withdrawal of these grounds of objection are respectfully requested. Applicants note that the status of U.S. Patent Application No. 09/661,912 will be updated upon its issuance.

In the fifth section of the Office Action, claims 1-11, 15-25, 31-41, 46-56, 60-70, 76-86, 91-101, 106-116, 121-131, 135-145, 151-161 and 212-222 are rejected under the judicially created doctrine of obviousness-type double patenting, as allegedly being

unpatentable over at least claim 1-2 and 5 of commonly-assigned U.S. Patent Application No. 09/661,912. Applicants hereby submit a terminal disclaimer in compliance with 37 C.F.R. 1.321(c) to overcome the present non-statutory double patenting rejection. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

In the seventh section of the Office Action, claims 1-11 are rejected under 35 U.S.C. § 112, second paragraph, for alleged indefiniteness. Applicants hereby amend claim 1 merely to clarify the language of the claim by replacing "serial data gate signal" with "serial control data signal." A similar change has been made in independent claims 5, 6 and 8. These amendments do not narrow or otherwise limit the scope of the claims. No new matter has been introduced by way of these amendments. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

During the interview, the rejection of claims 1, 15, 31, 46, 60, 76, 91, 106, 121, 135, 151, 212 and 2, 6, 16, 20, 32, 36, 47, 51, 61, 65, 77, 81 92, 96, 107, 111, 122, 126, 136, 140, 152, 156, 213, 217 and 9, 23, 39, 54, 68, 84, 99, 114, 129, 143, 159, 220 under 35 U.S.C. § 103(a) as allegedly being unpatentable over the combination of admitted prior art and Sharma et al. (U.S. Patent No. 6,636,906, hereinafter "Sharma") was discussed. No agreement was reached. These rejections are respectfully traversed.

Exemplary embodiments of the present invention are directed to a versatile, latency-independent interface between hardware components, such as between a read/write (R/W) channel or read channel (RDC) and a hard disk controller (HDC). Such an interface is flexible enough to support high read and write latencies of greater than one sector, a split sector format, and a second sector mark. [see present application, paragraph 5, page 1] The interface employs a new signaling protocol that decouples the timing of the conventional read

and write gate control signals by replacing them with a single RWGATE signal.

Additionally, five more signal are added in a preferred embodiment. The interface can support the following features: multiple sectors of read and write delay; multiple codewords per sector; multiple splits per sector; multiple codeword sizes per sector; expandable serial interface (SCD pin – Serial Control Data); and data recovery between the first sync mark and the second sync mark. [see present application, paragraphs 59-65, page 6]

According to the admitted prior art, as is shown in FIG. 1, a typical disk drive system includes a hard disk controller (HDC) 12 that interfaces with a R/W channel or RDC 14 which is in communication with a disk 16. Data transfer between HDC 12 and the R/W channel is synchronized by read gate (RGATE) and write gate (WGATE) control signals. In a read operation, R/W channel 14 processes an incoming analog signal from disk 16 and transfers the data to HDC 12. In a write operation, data is transferred from HDC 12 to the R/W channel to be written to the disk. [see present application, paragraph 7, page 1 – page 2]

Sharma discloses a snapshot mechanism that includes an apparatus and method for tracking DMA read requests for cacheable data that can be altered before the data is returned to a requesting I/O device. Attributes that uniquely identify the original I/O device and DMA read request are stored in a cache tag unit. A read lock is set when a request is made to obtain the requested data when it is not resident in a local cache. When the cache line containing the requested data is snooped out and the read lock is set, then the cache line is set in a snapshot state. The snapshot state assures that only the original I/O device receives the read data when it has been altered subsequent to the time the original DMA read request was made. Once the data is returned to the original I/O device, the cache line is invalidated in order to prevent another I/O device from reading the stale data. [see Sharma, Abstract]

With respect to the rejection of claims 1, 15, 31, 46, 60, 76, 91, 106, 121, 135, 151, 212, it is respectfully submitted that Sharma is non-analogous art. According to M.P.E.P. § 2141.01(a), “[i]n order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be in the field of applicant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.” [M.P.E.P. § 2141.01(a) (citations omitted)] Additionally, “[w]hile Patent Office classification of references and the cross-references in the official search notes of the class definitions are some evidence of ‘nonanalogy’ or ‘analogy’ respectively, the court has found ‘the similarities and differences in structure and function of the inventions to carry far greater weight.’” [M.P.E.P. § 2141.01(a) (citations omitted)]

Sharma relates to a cache data system. The coherent I/O system disclosed by Sharma comprises cache units configured to support DMA read requests for cacheable data. [see Sharma, Abstract] In contrast to Sharma, exemplary embodiments of the present invention are directed to a versatile, latency-independent interface between hardware components. Such an interface is flexible enough to support high read and write latencies of greater than one sector, a split sector format, and a second sector mark. [see present application, paragraph 5, page 1] Conventional technology such as iterative turbo coding, which is being introduced into modern disk drive systems, requires more processing before the data is available, which, in turn, requires R/W channels or RDCs with higher latencies. One problem is that the conventional interface used in the shorter latency systems is not capable of supporting the higher latencies. Accordingly, the latency-independent interface according to exemplary embodiments can support higher latency R/W channel or RDC designs.

Contrary to the assertions of the Patent Office, it is respectfully submitted that Sharma is not within the field of Applicants' endeavor and not reasonably pertinent to the particular problem with which the Applicants' were concerned. Additionally, it is respectfully submitted that the "structure and function" of the inventions of Sharma and the present invention are dissimilar and different. Sharma is directed to a cache data system, while the present invention is directed to a latency-independent interface between hardware components, each of the respective inventions comprising different components and devices with different functions. Consequently, it is respectfully submitted that Sharma is non-analogous art to the present invention, and, therefore, the Patent Office has improperly relied on Sharma in its attempt to render the claims of the present application obvious.

Furthermore, according to M.P.E.P. § 2143, to establish a prima facie case of obviousness, three basic criteria must be met. "First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings."

[M.P.E.P. § 2143] In other words, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." [M.P.E.P. § 2143.01] The Patent Office asserts that "it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt the Sharma's teaching onto the prior art because Sharma teaches how to accommodate devices with either split or non-split capability." [Office Action, page 7] However, it is respectfully submitted that the Patent Office's stated motivation for combining Sharma with

the admitted prior art is completely without support in the admitted prior art, as there is absolutely no disclosure or suggestion in the admitted prior art, either explicitly or implicitly, regarding the desirability for split or non-split capability. It is respectfully submitted that there is there is no teaching, suggestion or motivation, either explicitly or implicitly, to combine the references in the manner suggested by the Patent Office. Consequently, it is respectfully submitted that the Patent Office has not established a prima facie case of obviousness.

For at least the aforementioned reasons, it is respectfully submitted that the combination of the admitted prior art and Sharma does not render independent claims 1, 15, 31, 46, 60, 76, 91, 106, 121, 135, 151, 212 unpatentable.

According to M.P.E.P. § 2142, “[t]o reach a proper determination under 35 U.S.C. 103, . . . impermissible hindsight must be avoided and the legal conclusion [of obviousness] must be reached on the basis of the facts gleaned from the prior art.” Furthermore, according to M.P.E.P. § 2143.01, “[t]he mere fact that references can be . . . modified does not render the resultant combination obvious unless the prior art also suggests the desirability of [such modification].” [citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)] Since the Patent Office has offered no proper support or motivation for combining the references, it is respectfully submitted that the rejection based on obviousness is clearly and unequivocally founded upon “knowledge gleaned only from applicant's disclosure.” [see M.P.E.P. § 2145] Consequently, it is respectfully submitted that the rejection entails hindsight and is, therefore, improper.

New dependent claims 357-376 variously depend from independent claims 1, 31, 46, 76, 121 and 151, and are, therefore, patentably distinguishable over the combination of the

admitted prior art and Sharma for at least those reasons stated above with regard to independent claims 1, 31, 46, 76, 121 and 151.

With respect to the rejection of claims 2, 6, 16, 20, 32, 36, 47, 51, 61, 65, 77, 81 92, 96, 107, 111, 122, 126, 136, 140, 152, 156, 213, 217, in complete contrast to the present invention, it is respectfully submitted that the admitted prior art does not disclose or suggest the feature of *a serial control data signal* that comprises information that the data is one of first split, *continue split* and last split, as recited in, for example, independent claim 2 of the present application. In addition, it is respectfully submitted that the admitted prior art does not disclose or suggest the feature of *a serial control data signal* that comprises information as to whether a succeeding serial control data is a continuation of a current serial control data, as recited in, for example, independent claim 6 of the present application.

Additionally, according to Sharma, a memory request can include a transaction identifier 146, which is a unique identifier that identifies the DMA read request and is used in a split read transaction. [see Sharma, column 5, lines 48-50] The tag line 156 can include a transaction identifier 172, which is the identifier of a transaction initiating the DMA read request and is used in the split read transaction. [see Sharma, column 6, lines 20-22] The status line 158 can include a split read ("SR") state that means split read mode. [see Sharma, column 7, lines 13-15] As disclosed by Sharma,

split read transaction is a DMA read request for data that can span one or more cache lines. In a typical split read transaction, the request is for X bytes of data relative to starting address Y. The I/O bridge unit 116 then returns X bytes of data which can span one or more cache lines. In addition, once the requesting I/O device 122 makes the DMA read request, it does not need to retry the DMA read request in the event the requested data is not resident in the cache 152 of the I/O bridge unit 116. Instead, the cache controller unit 150 returns the cache line as soon as it receives the line. [Sharma, column 8, lines 18-28]

According to Sharma, “[i]n the case of a split read transaction, the SR bit is set (i.e., SR = ‘1’b) and for non-split transactions, the SR bit is turned off (i.e., SR = ‘0’b).” [Sharma, column 9, lines 4-6]

Thus, although Sharma discloses split read transactions, it is respectfully submitted that *nowhere* does Sharma disclose or suggest a *serial control data signal*, particularly a *serial control data signal* that comprises information that the data is one of first split, *continue split* and last split, as recited in, for example, independent claim 2 of the present application. In addition, it is respectfully submitted that *nowhere* does Sharma disclose or suggest the feature of a *serial control data signal* that comprises information as to whether a *succeeding serial control data* is a *continuation* of a *current serial control data*, as recited in, for example, independent claim 6 of the present application.

If this rejection is repeated, the Patent Office is respectfully requested to specifically point out where Sharma discloses or suggests such a serial control data signal and such serial control data.

The Patent Office asserts that “[d]etermining the continuation is an inherent characteristic of the split transaction to determine whether the current session is related to a previous session.” [Office Action, page 7] According to M.P.E.P. § 2112, “[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.” [(citations omitted, emphasis in original)] More particularly,

[t]o establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.

Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. [M.P.E.P. § 2112 (citations omitted)]

“In relying upon the theory of inherency, the examiner *must* provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” [M.P.E.P. § 2112 (emphasis added and in original)]

It is respectfully submitted that the Patent Office has provided *absolutely no* basis in fact and/or technical reasoning, *absolutely no* extrinsic evidence, and *absolutely no* support for its bald and unfounded assertion that Sharma inherently discloses a *continue split* according to exemplary embodiments. Rather, the Patent Office simply states that the split read transaction disclosed by Sharma inherently includes a continue split. Such a blatantly bald and unfounded assertion of inherency is contrary to the tenets of established patent laws and is a thoroughly improper determination of inherency. It is respectfully submitted that there is no suggestion, disclosure or teaching in Sharma to support the Patent Office's assertion of inherency, as Sharma does not disclose or suggest serial control data or a serial control data signal, particularly one that comprises information that the data is one of first split, *continue split* and last split. Rather, it is respectfully submitted that the Patent Office is basing its determination of inherency on mere “probabilities or possibilities.” The Patent Office has proffered no evidence that makes it clear that “the missing descriptive matter is *necessarily present* in the thing described in the reference.”

Applicants respectfully traverse the assertion of inherency and request that the Patent Office cite a document in support of this determination so that the Applicants have a full and fair opportunity to respond to the combination of documents.

Therefore, it is respectfully submitted that Sharma does not address the above-identified deficiencies of the admitted prior art.

Furthermore, it is respectfully submitted that the Patent Office's stated motivation for combining Sharma with the admitted prior art is completely without support in the admitted prior art, as there is absolutely no disclosure or suggestion in the admitted prior art, either explicitly or implicitly, regarding the desirability for split or non-split capability. As neither the admitted prior art nor Sharma disclose or suggest numerous features of the present invention, it is respectfully submitted that there is there is no teaching, suggestion or motivation, either explicitly or implicitly, to combine the references in the manner suggested by the Patent Office. Consequently, it is respectfully submitted that the Patent Office has not established a prima facie case of obviousness. For at least the aforementioned reasons, it is respectfully submitted that the combination of the admitted prior art and Sharma does not render independent claims 2 and 6 unpatentable.

Rather, since the Patent Office has offered no proper support or motivation for combining the references, it is respectfully submitted that the rejection based on obviousness is clearly and unequivocally founded upon "knowledge gleaned only from applicant's disclosure." [see M.P.E.P. § 2145] Consequently, it is respectfully submitted that the rejection entails hindsight and is, therefore, improper.

Independent claims 16, 32, 47, 61, 77, 92, 107, 122, 136, 152 and 213 recite features similar to those discussed above with respect to independent claim 2, and are, therefore, patentably distinguishable over the combination of the admitted prior art and Sharma for at least those reasons stated above with regard to independent claim 2.

Independent claims 20, 36, 51, 65, 81, 96, 111, 126, 140, 156 and 217 recite features similar to those discussed above with respect to independent claim 6, and are, therefore, patentably distinguishable over the combination of the admitted prior art and Sharma for at least those reasons stated above with regard to independent claim 6.

Dependent claims 9, 23, 39, 54, 68, 84, 99, 114, 129, 143, 159 and 220 variously depend from independent claims 2, 16, 32, 47, 61, 77, 92, 107, 122, 136, 152 and 213, and are, therefore, patentably distinguishable over the combination of the admitted prior art and Sharma for at least those reasons stated above with regard to independent claims 2, 16, 32, 47, 61, 77, 92, 107, 122, 136, 152 and 213.

New dependent claims 255-260, 273-278, 291-296, 309-314, 327-332 and 345-350 variously depend from independent claims 6, 36, 51, 81, 126 and 156, and are, therefore, patentably distinguishable over the combination of the admitted prior art and Sharma for at least those reasons stated above with regard to independent claims 6, 36, 51, 81, 126 and 156.

For at least the foregoing reasons, it is respectfully submitted that the combination of the admitted prior art and Sharma does not render the subject matter of claims 2, 6, 16, 20, 32, 36, 47, 51, 61, 65, 77, 81, 92, 96, 107, 111, 122, 126, 136, 140, 152, 156, 213, 217 and 9, 23, 39, 54, 68, 84, 99, 114, 129, 143, 159, 220 and 255-260, 273-278, 291-296, 309-314, 327-332 and 345-376 unpatentable. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

During the interview, the rejection of claims 3-5, 17-19, 33-35, 48, 50, 62, 64, 78, 80, 93, 95, 108, 110, 123, 125, 137, 139, 153, 155, 214, 216 and 8, 22, 38, 53, 67, 83, 98, 113, 128, 142, 158 and 219 under 35 U.S.C. § 103(a) as allegedly being unpatentable over the

combination of the admitted prior art, Sharma¹ and Dunn et al. (U.S. Patent No. 5,274,772, hereinafter "Dunn") was discussed. No agreement was reached. These rejections are respectfully traversed.

Dependent claim 3, 4, 17, 18, 33, 34, 48, 62, 78, 93, 108, 123, 137, 153 and 214 variously depend from independent claims 2, 16, 32, 47, 61, 77, 92, 107, 122, 136, 152 and 213, and are, therefore, patentably distinguishable over the combination of the admitted prior art, Sharma and Dunn for at least those reasons stated above with regard to independent claims 2, 16, 32, 47, 61, 77, 92, 107, 122, 136, 152 and 213.

It is respectfully submitted that the admitted prior art does not disclose or suggest the feature of a *serial control data signal* that comprises *a codeword size of a current sector*, as recited in, for example, independent claim 5 of the present application. In addition, it is respectfully submitted that the admitted prior art does not disclose or suggest the feature of a *ready transceiver* that transmits or receives a *bi-directional ready signal*, as recited in, for example, independent claim 8 of the present application.

It is respectfully submitted that Sharma does not disclose or suggest the feature of a *serial control data signal* that comprises *a codeword size of a current sector*, as recited in, for example, independent claim 5 of the present application. For example, Sharma discloses that a tag line 156 can include a number of bytes 173, which is "the number of bytes that is subject to the DMA read request" [Sharma, column 6, lines 25-27] It is respectfully submitted that the number of bytes is the total number of bytes of the data to be read. In

¹ During the interview, the Patent Office clarified that the citation of Sharma was inadvertently left out of the present rejection as the result of a typographical error. Therefore, Applicants will respond to the present rejection assuming that Sharma was meant to be included.

complete contrast to the present invention, it is respectfully noted that the number of bytes 173 disclosed by Sharma is *not* an indication of a codeword size *of a current sector*.

In addition, it is respectfully submitted that Sharma does not disclose or suggest the feature of a *ready transceiver* that transmits or receives a *bi-directional ready signal*.

Therefore, it is respectfully submitted that Sharma does not address the above-identified deficiencies of the admitted prior art.

Dunn discloses a data processing system in which information bearing signals are recorded in one of a plurality of record formats on one record medium. The format selected can be commanded or based upon record lengths, in bytes. When the record length equals or exceeds a predetermined number of bytes, then one record is recorded in each signal block of the record format. When the record length is less than the predetermined number, then a second format is used which inserts several of the records in one of the signal blocks. The signal block and its packets respectively contain indications of formats such that any one of several formats can be used on one record medium and in one signal block having a plurality of variable length packets. Logical indicators, such as format marks, tape marks, and the like, can separate formats used on the storage medium. [see Dunn, Abstract]

According to Dunn, "[b]yte count field CNT 36 indicates the summation of the original lengths of the host supplied fields." [Dunn, column 4, lines 4-6] It is respectfully submitted that the byte count field CNT 36 represents the total length of records. In complete contrast to the present invention, the byte count field CNT 36 disclosed by Dunn is *not* an indication of a codeword size *of a current sector*.

Therefore, it is respectfully submitted that Dunn does not disclose or suggest the feature of a *serial control data signal* that comprises a *codeword size of a current sector*, as

recited in, for example, independent claim 5 of the present application. Therefore, it is respectfully submitted that Dunn does not address the above-identified deficiencies of either the admitted prior art or Sharma, with respect to independent claim 5 of the present application.

With respect to independent claim 8 of the present application, Dunn discloses that “[e]ach of the status stores 300 contain a plurality of registers for containing bits relating to device status, buffer status, channel status, and the like. Such status information reflects the selection status of the device, its busy status, contingent connections and all other status necessary for operating the storage subsystem with the input/output channel 214.” [Dunn, column 15, lines 40-47] In particular, Dunn discloses that

[s]tatus stores 300 also communicate with the respective channel adaptors in the control units 11 via cables 303. Such communication includes the supplying of device busy status to the channel adaptors from the status stores and the request for selection from the channel adaptors to the status stores; that is, if CAB 280 wants to select device D6 on behalf of a host request, CAB 280 communicates with its status store 300 of CU-0 requesting that the device D6 be selected. Status store 300 will supply the busy or not busy status of D6 to CAB. CAB then immediately responds to the host request with respect to device D6, thereby reducing selection and inquiry time between a host 212 and control units 211. [Dunn, column 15, line 61 – column 16, line 6]

During the interview, the Patent Office clarified its position regarding its rejection. The Patent Office stated that the “not busy status” signal is equivalent to the ready signal disclosed by the present invention. However, contrary to the assertions of the Patent Office, Dunn discloses that the status stores 300 supply the busy or not busy status and that the status stores 300 are comprised of a plurality of *registers*. It is respectfully submitted that *nowhere* does Dunn disclose or suggest the feature of a ready *transceiver* that transmits or receives a bi-directional ready signal. It is respectfully noted that the Patent Office has failed to point

out, either in the Office Action or during the interview, where Dunn discloses such a ready *transceiver*.

Therefore, it is respectfully submitted that Dunn does not disclose or suggest the feature of a *ready transceiver* that transmits or receives a *bi-directional ready signal*.

Consequently, it is respectfully submitted that Dunn does not address the above-identified deficiencies of either the admitted prior art or Sharma, with respect to independent claim 8 of the present invention.

As neither the admitted prior art nor Sharma nor Dunn disclose or suggest numerous features of the present invention, it is respectfully submitted that there is there is no teaching, suggestion or motivation, either explicitly or implicitly, to combine the references in the manner suggested by the Patent Office. Consequently, it is respectfully submitted that the Patent Office has not established a prima facie case of obviousness. For at least the aforementioned reasons, it is respectfully submitted that the combination of the admitted prior art, Sharma and Dunn does not render independent claims 5 and 8 unpatentable.

Rather, since the Patent Office has offered no proper support or motivation for combining the references, it is respectfully submitted that the rejection based on obviousness is clearly and unequivocally founded upon "knowledge gleaned only from applicant's disclosure." [see M.P.E.P. § 2145] Consequently, it is respectfully submitted that the rejection entails hindsight and is, therefore, improper.

Independent claims 19, 35, 50, 64, 80, 95, 110, 125, 139, 155 and 216 recite features similar to those discussed above with respect to independent claim 5, and are, therefore, patentably distinguishable over the combination of the admitted prior art, Sharma and Dunn for at least those reasons stated above with regard to independent claim 5.

Independent claims 22, 38, 53, 67, 83, 98, 113, 128, 142, 158 and 219 recite features similar to those discussed above with respect to independent claim 8, and are, therefore, patentably distinguishable over the combination of the admitted prior art, Sharma and Dunn for at least those reasons stated above with regard to independent claim 8.

New dependent claims 249-254, 261-266, 267-272, 279-284, 285-290, 297-302, 303-308, 315-320, 321-326, 333-338, 339-344 and 351-356 variously depend from independent claims 5, 8, 35, 38, 50, 53, 80, 83, 125, 128, 155 and 158, and are, therefore, patentably distinguishable over the combination of the admitted prior art, Sharma and Dunn for at least those reasons stated above with regard to independent claims 5, 8, 35, 38, 50, 53, 80, 83, 125, 128, 155 and 158.

For at least the foregoing reasons, it is respectfully submitted that the combination of the admitted prior art, Sharma and Dunn does not render the subject matter of claims 3-5, 17-19, 33-35, 48, 50, 62, 64, 78, 80, 93, 95, 108, 110, 123, 125, 137, 139, 153, 155, 214, 216 and 8, 22, 38, 53, 67, 83, 98, 113, 128, 142, 158, 219 and 249-254, 261-266, 267-272, 279-284, 285-290, 297-302, 303-308, 315-320, 321-326, 333-338, 339-344 and 351-356 unpatentable. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

In the twelfth section of the Office Action, claims 7, 21, 37, 52, 66, 82, 97, 112, 127, 141, 157, 218 and 10, 24, 40, 55, 69, 85, 100, 115, 130, 144, 160, 221 and 11, 25, 41, 56, 70, 86, 101, 116, 131, 145, 161, 222 are rejected under 35 U.S.C. § 103(a) as allegedly being

unpatentable over the combination of the admitted prior art, Sharma², Dunn and Bliss et al. (U.S. Patent No. 6,009,549, hereinafter "Bliss"). These rejections are respectfully traversed.

Dependent claim 7, 21, 37, 52, 66, 82, 97, 112, 127, 141, 157, 218 and 10, 24, 40, 55, 69, 85, 100, 115, 130, 144, 160, 221 and 11, 25, 41, 56, 70, 86, 101, 116, 131, 145, 161, 222 variously depend from independent claims 2, 16, 32, 47, 61, 77, 92, 107, 122, 136, 152 and 213, and are, therefore, patentably distinguishable over the combination of the admitted prior art, Sharma, Dunn and Bliss for at least those reasons stated above with regard to independent claims 2, 16, 32, 47, 61, 77, 92, 107, 122, 136, 152 and 213. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

² During the interview, the Patent Office clarified that the citation of Sharma was inadvertently left out of the present rejection as the result of a typographical error. Therefore, Applicants will respond to the present rejection assuming that Sharma was meant to be included.

All of the objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance and a notice to that effect is earnestly solicited. Should the Examiner have any questions regarding this response or the application in general, the Examiner is urged to contact the Applicant's attorney, Andrew J. Bateman, by telephone at (202) 625-3547. All correspondence should continue to be directed to the address given below.

Respectfully submitted,

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